IN THE CLAIMS:

- 1 1. (Currently amended) An electronic device, comprising a sensor sensitive to position of a conductive or ferrous material, said sensor comprising a single coil 2 inductance transducer, and a temperature measurement circuit for providing a 3 temperature output derived from said sensor, a position measuring circuit for 4 measuring position of said conductive or ferrous material, and a voltage controlled 5 gain adjusting device, wherein said temperature measurement circuit provides a 6 7 voltage proportional to temperature to said voltage controlled gain adjusting 8 device to adjust adjusts sensor output voltage of said position measuring circuit to 9 provide circuit temperature compensated sensor output data independent of 10 temperature of said conductive or ferrous material, wherein said temperature measurement circuit uses a signal derived from resistance of said single coil 11 12 inductance transducer to provide said voltage proportional to correct for 13 temperature.
- 1 2. (Previously amended) The electronic device as recited in claim 1, wherein said conductive or ferrous material comprises a magnetically permeable member, 2 3 wherein said magnetically permeable member is moveable.
- 3. 1 (Previously amended) The electronic device as recited in claim 2, wherein said 2 moveable magnetically permeable member is located within said single coil inductance transducer. 3
- 4. (Cancel) 1
- 5. 2 (original) The electronic device as recited in claim 1, wherein said sensor is a displacement sensor. 3

- б. (original) The electronic device as recited in claim 1, wherein said sensor 1 comprises input pads for receiving a first signal and a second signal, said first 2 3 signal having a higher frequency than said second signal.
- 1 7. (Cancel)
- 1 8. (Currently amended) The electronic device as recited in claim 1, wherein said 2 circuit voltage controlled gain adjusting device comprises a variable gain 3 amplifier or a microprocessor.
- 9. 1 (original) The electronic device as recited in claim 1, wherein said magnetically 2 permeable member comprises a highly permeable material.
- 10. 1 (original) The electronic device as recited in claim 9, wherein said highly 2 permeable material comprises permalloy, ferrite, and 400 series stainless steel.
- 11. (original) The electronic device as recited in claim 1, wherein said magnetically 1 permeable member comprises magnetoelastic characteristics.
- 12. (original) The electronic device as recited in claim 11, wherein said 3 magnetoelastic characteristics are modulated by strain, stress, or torque. 4

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1	13.	(Currently amended) An electronic device, comprising a single coil inductance
2		transducer having a single coil and a magnetically permeable member that
3		extends in said single coil, said device further comprising a temperature
4		measurement circuit, a position measuring circuit, and a voltage controlled gain
5		adjusting device, wherein said temperature measurement circuit provides a
6		voltage proportional to temperature to said voltage controlled gain adjusting
7		device to adjust adjusts output voltage of said position measuring circuit single
8		coil inductance transducer to compensate for a change in temperature in said
9		single coil and in said member.
1	1.4	(Prayiously amended) The electronic device or resited in claim 12 ask and a side

- 1 14. (Previously amended) The electronic device as recited in claim 13, wherein said magnetically permeable member is moveable with respect to said single coil.
- 1 15. (Previously amended) The electronic device as recited in claim 13, wherein said circuit uses resistance of said single coil to compensate for change in temperature of said single coil and in said member.
- 1 16. (Previously amended) The electronic device as recited in claim 13, wherein said sensor single coil inductance transducer comprises is a displacement sensor.
- 1 17. (Currently amended) The electronic device as recited in claim 13, wherein said
 2 sensor transducer comprises input pads for receiving a first signal and a second
 3 signal, said first signal having a higher frequency than said second signal.
- 1 18. (Cancel)
- 2 19. (Currently amended) The electronic device as recited in claim 13, wherein said
 3 circuit voltage controlled gain adjusting device comprises a variable gain
 4 amplifier or a microprocessor.

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2	20.	permeable member comprises a		aid magnetically
1 2	21.	(original) The electronic device a	·	
1 2	22.	(original) The electronic device a permeable member comprises m	ŕ	aid magnetically
1 2	23.	(original) The electronic device a		
3 4 5 6 7 8 9	24.	(Currently amended) An electron conductive or magnetically perm and a temperature measurement of voltage controlled gain adjusting circuit provides a voltage proport gain adjusting device to adjust	eable member coupled to said si circuit, an inductance measuring device, wherein said temperaturional to temperature to said volt ljusts a voltage output of voltage single inductor to provide a an are of said single inductor and temperature of said single inductor and temperature.	ngle inductor, circuit, and a e measurement age controlled of said adjusted output
1 2	25.	conductive or magnetically perme (original) The electronic device a permeable member is moveable v	s recited in claim 24, wherein sa	id magnetically
1 2 3	26.	(Previously amended) The electrocircuit uses resistance of said single inductors and single inductors are said single inductors.	gle inductor to compensate for cl	

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2		single inductor, member	and circuit comprise a sens	sor.
1 2	28.	•	ne electronic device as recit and circuit comprise a disp	ed in claim 27, wherein said lacement sensor.
1 2 3	29.	sensor comprises input p		ed in claim 28, wherein said nal and a second signal, said nd signal.
1	30.	(Cancel)	·	
2 3 4	31.	•	e electronic device as recited gain adjusting device compessor.	
1 2	32.	` • ,	device as recited in claim 2 orises a highly permeable m	4, wherein said magnetically aterial.
1 2	33.	` •	device as recited in claim 3	
1 2	34.		device as recited in claim 2	4, wherein said magnetically steristics.
1 2	35.		device as recited in claim 3- istics are modulated by strai	
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27. (Previously amended) The electronic device as recited in claim 24, wherein said

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- 1 36-52. (Cancel)
- **53**. 1 (Previously amended) A device comprising a single component, a temperature 2 measurement circuit, a first parameter measuring circuit, and a voltage controlled 3 gain adjusting device and a circuit, wherein said temperature measurement circuit provides a voltage proportional to temperature to said voltage controlled gain 4 5 adjusting device to adjust output voltage of said first parameter measuring circuit 6 wherein said single component is used by said circuit both for sensing a first 7 parameter and for sensing temperature wherein the temperature is used in said 8 circuit for correcting said first parameter to make adjusted output voltage of said of said first parameter measuring circuit independent of change in temperature 9
- 1 54. (Cancel)

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with time.

- 1 55. (Previously amended) A circuit as recited in claim 53, wherein said single 2 component comprises a single inductor.
- 1 56. (Cancel)
- 1 57. (Previously amended) A circuit as recited in claim 55, wherein said single 2 inductor has a magnetically permeable core.
- 58. (previously presented) The electronic device as recited in claim 57, wherein said 1 magnetically permeable core has a core length and said single inductor has a 2 single inductor length, wherein said core length is about equal to said inductor 3 4 length.

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1	59.	(Currently amended) Th	e electronic device as recite	ed in claim 53, wherein said
2		voltage controlled gain a	<u>idjusting device</u> circuit con	prises a variable gain
3		amplifier or a microproc	essor.	
1	60.	(previously presented) T	he electronic device as reci	ted in claim 53, further
2		comprising a lower frequency	iency power supply and a h	igher frequency power supply
3		connected to provide a lo	ower frequency and a higher	r frequency signal to said
4		single component.		
1.	61.	(previously presented) Tr	he electronic device as recit	ted in claim 60, wherein said
2		lower frequency power s	upply provides direct curre	at.
1	62.	(previously presented) Tl	ne electronic device as recit	ed in claim 53, further
2		comprising a low pass fil	ter and a high pass filter, ea	ach connected to receive an
3		output of said single com	ponent.	
1	63.	(previously presented) Th	ne electronic device as recit	ed in claim 53, further
2		comprising a demodulate	r positioned after said high	pass filter.
1	64.	(previously presented) Th	ne electronic device as recito	ed in claim 53, further
2		comprising a difference a	mplifier connected to recei	ve said low frequency signal
3		output from said coil, wh	erein said difference amplif	ñer provides a voltage
4		proportional to a tempera	ture of said coil.	
1	65.	(previously presented) Th	e electronic device as recito	ed in claim 64, wherein said
2		difference amplifier comp	orises an instrumentation an	nplifier.
1	66.	(previously presented) Th	e electronic device as recite	ed in claim 53, further
2		comprising a span adjustr	nent circuit.	
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1	67.	(previously presented) The electronic device as recited in claim 66, wherein said
2		span adjustment circuit comprises a variable gain amplifier.
1	68.	(previously presented) The electronic device as recited in claim 66, wherein said
2		span adjustment circuit comprises a microprocessor.
1	69.	(previously presented) The electronic device as recited in claim 3, wherein said
2		magnetically permeable member has a member length and said single coil has a
3 .		coil length, wherein said member length is about equal to said coil length.
1	70.	(previously presented) The electronic device as recited in claim 13, wherein said
2		magnetically permeable member has a member length and said single coil has a
3 ·		coil length, wherein said member length is about equal to said coil length.
1	71.	(previously presented) The electronic device as recited in claim 24, wherein said
2		magnetically permeable member has a member length and said single inductor h
3		an inductor length, wherein said member length is about equal to said inductor
4		length.
1	72.	(previously presented) The electronic device as recited in claim 1, wherein said
2		sensor is to detect the position or presence of a conductive or ferrous target.
1	73.	(previously presented) The electronic device as recited in claim 72, wherein said
2		single coil and said target are non-contacting and wherein relative position of sai
3		single coil and said target are measured.
1	74.	(previously presented) The electronic device as recited in claim 72, wherein said
2		target has magnetoelastic characteristics.
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- 1 *75*. (previously presented) The electronic device as recited in claim 1, wherein said sensor comprises a displacement sensor, a force sensor, an acceleration sensor, a 2 3 pressure sensor, or a torque sensor.
- 76. (previously presented) The electronic device as recited in claim 1, wherein said 1 2 sensor further comprises a flexure element.